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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/084,935

03/01/2002

Shunpei Yamazaki

740756-2447

8560

22204

7590

08/22/2003

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EXAMINER

BAUMEISTER, BRADLEY W

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 08/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/084,935

Applicant(s)  
Yamazaki et al.

Examiner  
B. William Baumeister

Art Unit  
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jun 25, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 11 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et al. '075.

a. Zhang teaches recrystallized Si-TFTs having a CVD sputtered barrier layer 2 and gate oxide layer 5 which are both composed of the same materials and by the same methods (col. 5, lines 10-25), and an Al metal gate electrode (col. 5, lines 34, 35).

b. The oxide layers include a halogen such as F or Cl (e.g., col. 7, lines 13-; col. 8, lines 9-26) that is added at a concentration of greater than 0.1 atom % (claim 14) and less than 20% (col. 9, lines 55-68). A halogen concentration of 1 volume % corresponds to  $2 \times 10^{20} \text{ cm}^{-3}$  (col. 9, lines 60-65) which is less than the  $5 \times 10^{20}$  concentration set forth in claim 1 and greater than

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the  $1 \times 10^{17}$  concentration of claim 5. The oxide also includes C at a concentration of  $5 \times 10^{18} \text{ cm}^{-3}$  (col. 10, lines 60-64).

c. Regarding various dependent claims, such as 9 and 10, the following case law makes clear that in claims directed towards a product, it is the patentability of the final product per se which must be determined, no matter how actually made. Further, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or otherwise. *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also, *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wethheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al.*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964. Note that in such cases, the burden is on applicant to prove that claim language relating to the method of making the device results in a structural difference over the prior art.

Thus, none of these dependent claims setting forth the halogen carrier gas further distinguishes the invention over any prior art which possesses the same structure, as claimed.

3. Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by JP '679, or in the alternative, under 35 U.S.C. 103(a) as obvious over JP '679 in view of JP '267.

a. These two Japanese patent documents correspond to the Japanese patent applications to which Zhang et al. '075 claims foreign priority.

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b. JP '679 appears to disclose all of the same information relating to the oxides containing halogen and carbon impurities. (See e.g., page 5 upper left column disclosing halogen concentration of less than 20% and preferably within the range of 0.2 to 10%, and that 1% corresponds to  $1\sim 2 \times 10^{20} \text{ cm}^{-3}$ . Also, page 3, lower right column discusses the use of  $\text{CCl}_4$  gas.) As such, the claims are anticipated under the same rationale as set forth above in relation to Zhang '075, which also serves as an English translation of JP '679.

c. Alternatively, in case all of the information relied upon is not, in fact, contained exclusively within JP '679, the claims are alternatively rejected over JP '679 in view of JP '267-- the other foreign priority document. The references would have been obvious to combine for the purpose of producing a TFT with improved properties and their teachings would be combinable as evidenced by the fact that they both serve as the basis for the single Zhang patent.

### *Response to Arguments*

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

5. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 4/16/2003 prompted the new ground(s) of rejection presented in this Office action. Specifically, the Request for Reexam and the associated Order

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Granting the Request include the disclosure of Zhang '075. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

#### **INFORMATION ON HOW TO CONTACT THE USPTO**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, **B. William Baumeister**, at **(703) 306-9165**. The examiner can normally be reached Monday through Friday, 8:30 a.m. to 5:00 p.m. If the Examiner is not available, the Examiner's supervisor, Mr. Eddie Lee, can be reached at (703) 308-1690. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



**B. WILLIAM BAUMEISTER**  
**PRIMARY EXAMINER**

B. William Baumeister  
Primary Examiner, Art Unit 2815  
August 13, 2003